

# Mnk2 (B-6): sc-271559

## BACKGROUND

The MAPKAP (for MAP kinase activated protein) kinases are a group of MAP kinase substrates which are themselves kinases. In response to activation, the MAP kinases phosphorylate downstream components on a consensus Pro-X-Ser/Thr-Pro motif. Several kinases that contain this motif have been identified and serve as substrates for the ERK and p38 MAP kinases, including the serine/threonine kinases Rsk-1 (also designated MAPKAP kinase-1), Rsk-2 and Rsk-3, which are phosphorylated by ERK1 and ERK2. Similarly, p38 phosphorylates and activates the serine/threonine kinases MAPKAP kinase-2 and MAPKAP kinase-3 (also designated 3pK). The serine/threonine kinases Mnk1 and Mnk2 are substrates for both ERK and p38 MAP kinases. Mnk2 exists as multiple isoforms, including Mnk2a and Mnk2b, due to alternative splicing events.

## REFERENCES

1. Sturgill, T.W., et al. 1988. Insulin-stimulated MAP2 kinase phosphorylates and activates ribosomal protein S6 kinase II. *Nature* 334: 715-718.
2. Stokoe, D., et al. 1992. MAPKAP kinase-2: a novel protein kinase activated by mitogen-activated protein kinase. *EMBO J.* 11: 3985-3994.
3. Davis, R.J. 1993. The mitogen-activated protein kinase signal transduction pathway. *J. Biol. Chem.* 268: 14553-14556.
4. Zhao, Y., et al. 1995. RSK3 encodes a novel pp90<sup>rk</sup> isoform with a unique N-terminal sequence: growth factor stimulated kinase function and nuclear translocation. *Mol. Cell. Biol.* 15: 4353-4363.

## CHROMOSOMAL LOCATION

Genetic locus: MKNK2 (human) mapping to 19p13.3; Mknk2 (mouse) mapping to 10 C1.

## SOURCE

Mnk2 (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 3-34 at the N-terminus of Mnk2 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Mnk2 (B-6) is available conjugated to agarose (sc-271559 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271559 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271559 PE), fluorescein (sc-271559 FITC), Alexa Fluor® 488 (sc-271559 AF488), Alexa Fluor® 546 (sc-271559 AF546), Alexa Fluor® 594 (sc-271559 AF594) or Alexa Fluor® 647 (sc-271559 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271559 AF680) or Alexa Fluor® 790 (sc-271559 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271559 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

Mnk2 (B-6) is recommended for detection of Mnk2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

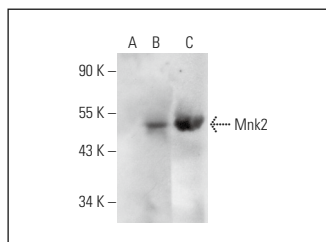
Suitable for use as control antibody for Mnk2 siRNA (h): sc-35951, Mnk2 siRNA (m): sc-35952, Mnk2 shRNA Plasmid (h): sc-35951-SH, Mnk2 shRNA Plasmid (m): sc-35952-SH, Mnk2 shRNA (h) Lentiviral Particles: sc-35951-V and Mnk2 shRNA (m) Lentiviral Particles: sc-35952-V.

Molecular Weight of Mnk2a: 52 kDa.

Molecular Weight of Mnk2b: 47 kDa.

Positive Controls: rat lung extract: sc-2396, HeLa whole cell lysate: sc-2200 or Mnk2 (h): 293T Lysate: sc-111551.

## DATA



Mnk2 (B-6): sc-271559. Western blot analysis of Mnk2 expression in non-transfected 293T: sc-117752 (A), human Mnk2 transfected 293T: sc-111551 (B) and HeLa (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Chen, Y., et al. 2017. Downregulated translation initiation signaling predisposes low-birth-weight neonatal pigs to slower rates of muscle protein synthesis. *Front. Physiol.* 8: 482.
2. El-Kadi, S.W., et al. 2018. Decreased abundance of eIF4F subunits predisposes low-birth-weight neonatal pigs to reduced muscle hypertrophy. *J. Appl. Physiol.* 12: 1171-1182.
3. Xie, S.J., et al. 2021. Dynamic m<sup>6</sup>A mRNA methylation reveals the role of METTL3/14-m<sup>6</sup>A-MNK2-ERK signaling axis in skeletal muscle differentiation and regeneration. *Front. Cell Dev. Biol.* 9: 744171.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.